REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

LIQUEFIED PETROLEUM GAS TRANSPORT FUEL CONVERSION

Submission Deadline: **3:00 PM**

LOCAL TIME IN PAKISTAN

June 30, 2011

Submission Place: Faridullah Khan
Managing Director
National Energy Conservation Centre (ENERCON)
ENERCON Building G-5/2
Islamabad, Pakistan

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

ANNEX 1	FEDBIZOPPS ANNOUNCEMENT
ANNEX 2	BACKGROUND DEFINITIONAL MISSION REPORT
ANNEX 3	USTDA NATIONALITY REQUIREMENTS
ANNEX 4	USTDA GRANT AGREEMENT, INCLUDING MANDATORY CONTRACT CLAUSES
ANNEX 5	TERMS OF REFERENCE (FROM USTDA GRANT AGREEMENT)
ANNEX 6	COMPANY INFORMATION

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US$482,118 to the National Energy Conservation Centre (the "Grantee") in accordance with a grant agreement dated September 15, 2010 (the "Grant Agreement"). The grant provided to the National Energy Conservation Centre (ENERCON), a department within Pakistan's Ministry of Environment, will fund a Feasibility Study to examine the viability of liquefied petroleum gas (LPG) compared to other transport fuel options for commuter bus operations in Pakistan. Specifically the Feasibility Study will assess the market opportunity, identify viable fuel options, develop a business plan, recommend necessary technical, infrastructure and institutional requirements, and estimate costs to support bus mass transit operations including those envisaged in the Government of Pakistan approved Shaheed Benazir Mass transit project. A well-qualified and experienced U.S. Contractor is needed to undertake this important Feasibility Study.

1.1 BACKGROUND SUMMARY

Created in December 1986 and operating under the Ministry of Environment since February 1997, the National Energy Conservation Centre (ENERCON) focuses on energy conservation and energy efficiency for all sectors of the economy. ENERCON adopted a strategy for promoting energy conservation that includes identifying appropriate energy conservation opportunities, undertaking pilot projects, training and education efforts, and developing plans and policies that promote energy efficiency. ENERCON serves as the secretariat for the Pakistan Energy Conservation Council and maintains the Energy Conservation Fund, which was established to provide financial assistance to energy conservation activities.

Pakistan has relied heavily compressed natural gas (CNG) as a transportation fuel, providing financial incentives and other commitments, over the past 25-30 years. Unfortunately, CNG supplies are decreasing as domestic gas production falls and demand for gas increases. As the market conditions for CNG in Pakistan become less favorable, LPG becomes a potential alternative. Although using LPG as a transportation fuel has been endorsed by the Ministry of Environment (MOE), it has not yet received the same financial incentives as other alternative fuel sources due to market fluctuations in pricing and infrastructure deficiencies to handle LPG in Pakistan. Consequently, ENERCON, has requested a Feasibility Study to determine the viability of LPG as a transportation fuel for bus fleets in seven Pakistani cities: Karachi, Hyderabad, Multan, Lahore, Faisalabad, Peshawar, and Islamabad.

This study provides an opportunity to demonstrate LPG's viability as a fuel for buses, while working with a dedicated project sponsor that has a mandate to promote its implementation, particularly with regard to the Shaheed Benazir Bhutto Mass Transit Project. ENERCON has identified seven major municipalities where the new fuel option could be introduced. This study will: examine the worldwide market for LPG and its applicability to Pakistan; assess the operational requirements to convert the bus fleets to LPG; analyze the economic and financial aspects behind an LPG transition; assess the infrastructure, technical and legal/regulatory requirements that will enable LPG to be used as a fuel for buses; prepare an implementation plan; and examine potential partnerships with U.S. companies for equipment and services.

1.2 OBJECTIVE

The Feasibility Study will conduct project preparatory activities for the use of liquefied petroleum gas (LPG) compared to other transport fuel options for commuter bus operations in Pakistan. It will identify viable fuels as well as necessary infrastructure and institutional requirements for the bus mass transit systems including the Government of Pakistan (GOP) approved Shaheed Benazir Mass transit project for selected major towns. Further, it will: examine the worldwide market for LPG and its applicability to Pakistan; assess the operational requirements to convert the bus fleets to LPG; analyze the economic and financial aspects behind an LPG transition; assess the technical and legal/regulatory requirements that will enable LPG to be used as a fuel for buses; prepare an implementation plan; and examine potential partnerships with U.S. companies for equipment and services. In addition, the study will examine any environmental issues associated with converting bus fleets to LPS, as well as any social/developmental impacts. At the conclusion of the study, the Grantee will be presented with a comprehensive analysis of the LPG market and the items needed in order to move forward with the Project. In addition, the study will enable the Grantee to benefit from U.S. expertise in LPG buses and LPG conversion kits.

The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US$482,118. **The USTDA grant of $US482,118 is a fixed amount. Accordingly, <u>COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted</u>**. Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US$482,118 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Liquefied Petroleum Gas Transport Fuel Conversion.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.
The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a transportation sector Definitional Mission (DM) for Pakistan to address technical, financial, sociopolitical, environmental, and other aspects of the proposed project. A copy of the report is attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US$482,118.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

Mr. Faridullah Khan of the National Energy Conservation Centre will provide offerors with instructions to maintain a record of receipt of their proposal if electronic delivery is required or allowed.

The **Cover Letter** in the proposal must be addressed to:

Faridullah Khan
Managing Director
National Energy Conservation Centre (ENERCON)
ENERCON Building G-5/2
Islamabad, Pakistan

Phone: 92-51-920-6001
Fax: 92-51-920-2657

An Original and eight (8) copies of your proposal must be received at the above address no later than 3:00 PM Local Time in Pakistan, on June 30, 2011.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and eight (8) copies should be collectively wrapped and sealed, and clearly labeled.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for ninety (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.21 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US$482,118, which is a fixed amount.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Executive Summary,
Company Information,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan, and
Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections 3.2.5 and 3.2.6 below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of ______________. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of ___________. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.

3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.

5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

3.2.5 Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

3.2.6 Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the Subcontractor must provide an explanation.

1. Subcontractor is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of ______________. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Feasibility Study.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Feasibility Study.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Feasibility Study as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

1) **Technical Approach and Work Plan (40 points)**

2) **Qualifications of each of the eight key personnel (40 points):**

   a. Detailed resumes for each of the individuals; and,

   b. Supporting project and/or country examples of relevant work activities to the proposed assignment as described in the TOR and within the section on Contractor Qualifications, and a description of how these project and/or country examples provide evidence of competence and/or expertise as related to the proposed assignment and Contractor Qualifications.

3) **Experience working with government, state-run organizations and/or the private sector in developing nations, preferably in Pakistan, South Asia, and/or other Asian countries on similar projects/activities (20 points)**

Proposals that do not include all requested information may be considered non-responsive.

<u>Price will not be a factor in contractor selection.</u>

Grantee Contact: Faridullah Khan, Managing Director, National Energy Conservation Centre (ENERCON), ENERCON Building G-5/2, Islamabad, Pakistan Phone: 92-51-920-6001, Fax: 92-51-920-2657

Project Title: Liquefied Petroleum Gas Transport Fuel Conversion; Appropriation Nos.: 119/101001; Activity No.: 2010-31068A; Reservation No.: 2010310088; Grant No.: GH2010310027

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. LIQUEFIED PETROLEUM GAS TRANSPORT FUEL CONVERSION. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to assess the market opportunity, develop a business plan, recommend necessary technical requirements, and estimate costs to integrate LPG into the transportation sector in and surrounding seven major Pakistani cities.

BACKGROUND SUMMARY

Created in December 1986 and operating under the Ministry of Environment since February 1997, the National Energy Conservation Centre (ENERCON) is responsible for energy conservation and energy efficiency for all sectors of the economy. ENERCON promotes energy conservation that includes identifying appropriate energy conservation opportunities, undertaking pilot projects, training and education efforts, and developing plans and policies that promote energy efficiency. ENERCON serves as the secretariat for the Pakistan Energy Conservation Council and maintains the Energy Conservation Fund, which was established to provide financial assistance to energy conservation activities.

USTDA is funding a feasibility study, on behalf of ENERCON, to demonstrate LPG's viability as a fuel for buses which may be considered for seven major municipalities in Pakistan. This study will: examine the worldwide market for LPG and its applicability to Pakistan; assess the operational requirements to convert the bus fleets to LPG; analyze the economic and financial aspects behind an LPG transition; assess the technical and legal/regulatory requirements that will enable LPG to be used as a fuel for buses; prepare an implementation plan; and examine potential partnerships with U.S. companies for equipment and services.

The U.S. firm selected will be paid in U.S. dollars from a $482,118 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/businessopps/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 3:00 PM local time in Pakistan, June 30, 2011 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

PORTIONS OF THIS DEFINITIONAL MISSION REPORT HAVE BEEN INTENTIONALLY REDACTED

ONLY RELEVANT PORTIONS OF THIS DEFINITIONAL MISSION REPORT PERTAINING TO LIQUEFIED PETROLEUM GAS TRANSPORT FUEL CONVERSION FEASIBILITY STUDY ARE INCLUDED HEREIN.

PAKISTAN: TRANSPORTATION SECTOR DEFINITIONAL MISSION

PROJECT NO: 2009-91004A

FINAL REPORT

SUBMITTED TO:
U.S. TRADE AND DEVELOPMENT AGENCY
1000 WILSON BOULEVARD, SUITE 1600
ARLINGTON, VA 22209
TELEPHONE: (703) 875-4357

SUBMITTED BY:
TERA INTERNATIONAL GROUP, INC. (TERA)
107 E. HOLLY AVENUE, SUITE 12
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The U.S. Trade and Development Agency

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment.

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SECTION A: EXECUTIVE SUMMARY

BACKGROUND

While Pakistan's economy has been significantly affected by several factors, including domestic security concerns, the global economic crisis and a weakened currency, it has recently posted robust rates of economic growth. Today, Pakistan ranks as one of the fastest growing emerging markets in the world. The government is enacting a range of measures to spur private sector growth including promoting upgrades to national infrastructure, including the transportation sector. As a result, new opportunities for private sector participation are emerging that were not available only a few years ago. Government-owned companies in the sector are having to become more market and customer oriented, and one of the forces behind this change is that they also have to reverse their losses because the public budget cannot support these indefinitely. Progress is underway but inefficiencies still exist in the sector and need to be rectifiedIn order to identify possible projects in the transportation sector for possible USTDA funding, a Definitional Mission (DM) was commissioned in 2009. TERA International Group, Inc. (TERA) was selected to implement the DM.

While recent political instability has discouraged U.S. commercial interest, these projects represent tangible opportunities for U.S. commercial involvement, both in terms of significant exports of U.S.-manufactured equipment as well as subsequent investment opportunities, and firms that could potentially benefit have expressed their support. hese projects also represent development priorities of their respective project sponsors.. A brief summary of each project is presented below:

Feasibility Study to Assess Liquefied Petroleum Gas (LPG) as a Transport Fuel Option

While Pakistan has provided incentives to develop Compressed Natural Gas (CNG) as a transport fuel (which has led to the development of filling stations and other supporting infrastructure), many local governments, in addition to the Ministry of Environment (MOE), also wish to examine LPG as an option given uncertainties involving CNG availability and pricing. However, MOE and other interested parties such as municipal governments have not examined the long term viability of LPG and are therefore reluctant to develop a similar program. This study would examine the viability of LPG, focusing on the requirements necessary to implement LPG programs in Karachi and Lahore, in addition to the transport corridor connecting these two cities(chosen because this area represents the main economic artery in the country). This project has two aims: (1) to provide the information necessary for Pakistan to move towards establishing LPG as an alternative transport fuel in a broader sense, and (2) to examine the specific requirements for instituting the programs in this key region. The study will provide supply and demand forecasts for LPGto demonstrate the fuel's availability,provide price forecasts for LPG (and other fuels for comparative purposes), and identify infrastructure requirements needed to move forward with implementation of LPG vehicles. U.S. suppliers of LPG-compatible buses and other related equipment such as metering systems and potentially conversion kits could benefit from the project. TERA recommends a grant to the MOE in the amount of $482,118 for this study.

Feasibility Study to Assess Liquefied Petroleum Gas (LPG) as a Transport Fuel Option

Project Description

Pakistan has provided incentives, subsidies, and commitments to develop Compressed Natural Gas (CNG) as a transport fuel, including for buses, a development which has led to the construction of filling stations and other supporting infrastructure. Unfortunately, CNG supplies for transport are decreasing as domestic gas production falls and demand for gas increases. Future CNG supplies will be more reliant on gas imports, which will require paying global market prices and greatly reduce – if not virtually eliminate – current subsidies. Current LPG imports (over 500,000 metric tons, or about 5.8 million barrels) are based on global market prices, which means that LPG (as a more efficient fuel than CNG) will likely become more attractive.

While LPG as a transport fuel has received endorsements by the Ministry of the Environment (MOE), it has not yet been accorded the same level of support and commitment as CNG. However, this could change if it can be demonstrated that LPG is a viable transport fuel. This study would examine this viability, focusing on the requirements necessary to implement LPG programs in Pakistan's largest two cities of Karachi and Lahore, in addition to the transport corridor which connects these two cities. This corridor is the economic heart of the country and also represents the two most targeted markets by a leading Pakistani proponent of LPG: Progas Inc., which has worked with U.S. companies in the past to promote greater use of LPG in Pakistan.

About 12 million vehicles use LPG globally, and tests indicate that it has a considerably higher octane rating than CNG and engines using LPG require less maintenance than those using CNG. After gasoline and diesel, LPG is the most widely used fuel for vehicles around the world. Currently, Pakistan imports LPG from the Persian Gulf region (primarily Oman and Qatar). There will be more LPG on the market as production increases in the nearby Persian Gulf (e.g., Qatar had a refinery come on-line at the end of 2009, and its production will be doubled to 20,000 bbl/day by 2012, and UAE, Oman and Iraq are also increasing production).

Currently there is limited use of LPG as a transport fuel in Pakistan. In Karachi, for example, motorized rickshaws using LPG were visible (but not prevalent). Unfortunately, limited information is available on the extent to which LPG is used for transport, but industry and government representatives contend that it is minimal. LPG consumption in Pakistan is primarily for non-transport uses (i.e., home energy use and cooking).

In contrast, CNG for transport has begun to develop, backed by government tax/tariff incentives. Lahore has 50 buses running on CNG and plans to begin converting another 2,000 next year. Similarly, Karachi is also instituting CNG program (however no buses are currently operating). Both cities, however, are interested in exploring the use of LPG given the changing CNG prices and market.

This provides an opportunity to demonstrate LPG's viability as a transport fuel with a project sponsor that has demonstrated an interest and possesses a mandate to promote implementation, coupled with two major municipalities that are also interested in exploring this option. In addition to these two major cities, there is also an opportunity to explore the use of LPG along Pakistan's major transit corridor, thus introducing the benefits of LPG to an even wider audience (including those in rural areas in which a government-stimulated program such as this would be difficult to implement on its own..

This Project aims to provide the information necessary for Pakistan to move towards establishing LPG as an alternative transport fuel. The Contractor will provide supply and demand forecasts for LPG, including but not limited to the Persian Gulf, in order to demonstrate the fuel's availability. The demand forecast for Pakistan will also include its use as a non-transport fuel. The Contractor will also provide price forecasts for LPG and other fuels for comparative purposes. This will include technical specifications and lists of suppliers and manufacturers of LPG transport vehicles and diesel to LPG and CNG to LPG conversion kits.

Project Sponsor's Capabilities and Commitment

MOE is Pakistan's chief environmental regulator, and it oversees the work of several environmental protection "agencies" representing provinces and larger municipalities, in addition to a country-wide agency which acts as a general coordinator of regulatory activities. As one of the Ministry's main objectives has been to promote activities which reduce air pollution, it has been a supporter of programs to reduce vehicular air emissions. It has promoted the use of CNG as an alternative to diesel, and has worked successfully with the Ministry of Finance and Revenue to adjust tax and tariff structures to make CNG more attractive. In addition, it has also supported similar treatment for LPG, and in general it is interested in examining the LPG option in more detail, given the CNG pricing and supply concerns noted above. The Ministry has endorsed LPG as a transport fuel and is therefore a committed partner; however, it wants to greater assurance that there will be adequate supplies given the situation with CNG.

As this Project developed, several alternatives were considered. Progas has been a leading private sector promoter of LPG which has also worked with U.S. companies. It suggested to TERA that the Project focus on the cities of Karachi and Lahore, as well as the connecting region. Further, it also suggested that a study examine LPG transport options in rural areas. While Progas was a leading private sector proponent; however, as an importer and distributor, it does not have the capability to implement Project recommendations, nor does it possess a regulatory mandate to enforce vehicular emissions standards. Progas indicated that a suitable grantee could either be the Ministry, or municipal entities such as the Karachi or Lahore city governments. TERA engaged in discussions with city officials from both Karachi and Lahore, and while both expressed interest in exploring the LPG option, it was clear that their immediate focus was on CNG.

By working with MOE, the study can also be broadened to cover a wider geographic span, i.e., not just Lahore and Karachi cities individually.

Implementation Financing

Implementation would likely be a strictly private sector undertaking. Individual bus operators would be responsible for purchasing conversion kits and/or new buses. Thus, it is imperative that demonstrating that LPG is a viable alternative fuel be conducted in an open and transparent manner. This will require considerable interaction with stakeholders including bus owners and operators in Lahore and Karachi. As noted, MOE demonstrated its commitment to exploring the LPG option by requesting the same tax treatment for LPG that was recently granted to CNG from the Ministry of Finance and Revenue. If the proposal is granted as anticipated, this would provide an incentive for municipalities and other bus operators to look more seriously into converting to LPG.

U.S. Export Potential

The cost of converting a bus to LPG is estimated to be about $1,800, while new buses typically average approximately $100,000. Given increasing urbanization and the need to increase and upgrade bus services throughout the country, there could be a considerable market potential both for conversion kits and for new buses. Therefore, even relatively modest projections of new bus purchases and bus conversions could result in equipment purchases of several million dollars.

Bluebird, General Motors Collins and Ford offer LPG powered buses and other vehicles as well as conversion kits. Cummins is also active in conversions and manufacturers LPG powered engines for buses and other heavy equipment, and although the bulk of the manufacturing for these products is done in China, it does maintain a U.S. presence for research and development and other operations. Smaller companies such as Campbell-Parnell also provide conversion kits for vehicles. Given that the use of LPG in Pakistan is still in its infancy, none of these companies is actively involved in this sector in the country; however, they nonetheless were generally in favor of the Project.

In addition, if LPG is shown to be a viable alternative fuel and vehicles are converted, the demand and the supply of LPG will increase as more fueling sites and other infrastructure is developed. With a wider distribution network, this will increase interest in and demand for LPG-powered compressors, engines, and metering systems in other sectors, especially agriculture. The U.S. is a leader in manufacturing LPG-powered equipment, and this could result in further sales.

The Washington, D.C.-based Propane Education and Research Council is an industry support group that promotes the use of LPG and its members include manufacturers of a wide range of vehicles and other equipment.

Foreign Competition and Market Entry Issues

There are no barriers to entry and U.S.-manufactured motor vehicles are generally considered to be of high quality in Pakistan. However, significant foreign competition exists from European and Chinese suppliers for buses and conversion kits. In addition, even U.S. companies such as Cummins now manufacture in China.. For buses, MAN (Austria), Calor Autogas (U.K.), Zhuhai Guangtong (China), Weichai Power (China) all supply the types of buses which could be utilized in Pakistan. Conversion kits are also manufactured extensively in the region; for example, Indian manufacturers such as Dars Automotive, Shri-Man Engineers, AMR Enterprises, Starlux (Turkey), in addition to domestic suppliers.

Developmental Impact

Use of LPG for vehicle transport would lead to developmental benefits in the areas of Physical Infrastructure Development, Technology Transfer/Productivity Improvement and Human Capacity Building. A distribution network would need to be established within the existing CNG/gasoline network, which would involve the transfer of technologies specific to LPG distribution. A new employment sector covering distribution as well as repair and maintenance would also be created. In terms of other positive developmental benefits, the converted and new buses would also reduce air pollution, increase the energy efficiency of bus engines, and extend the life of the engines. This would have a net effect of lowering current and future operating costs for buses.

Impact on the Environment

Impacts to the environment as a result of this project are only expected to be positive. LPG distribution is likely to be conducted through an existing network of stations, and workshops/repair stations for vehicles would also service the new/converted buses. These facilities would need to have proper separators (for oil and other chemicals) and safety procedures in place in order to ensure that no hazardous materials leak, but there are no special safeguards beyond those which would already be in place. For any new facilities, local requirements in terms of land use will need to be followed, and the terms of reference include a preliminary environmental review to ensure that the project is developed in compliance with these regulations.

Globally, LPG is the most widely used fuel for road vehicles after gasoline and diesel. It is a far cleaner fuel and it has a higher octane rating than CNG and it is far less harmful to an engine than other fuels including CNG.

As external financing from multilateral development banks may be possible, the TOR includes a task requiring the feasibility study contractor to examine their requirements.

Impact on U.S. Labor

The bus conversions will be undertaken in Pakistan and will not impact U.S. labor. U.S. companies do not compete in the importation/distribution of LPG, which only involves local companies. Any impact on U.S. labor will be positive given that U.S.-made buses, conversion kits and spare parts could potentially be purchased.

Qualifications

For the LPG assessment, four international experts will be required for a total of 12 person-months including (note: the Team Leader should ideally be the LPG Operations Expert):

- LPG Operations Expert/Team Leader (4 months);
- Bus/Heavy Truck Engineer (2 months);
- Institutional/Legal Expert (2 months); and,
- Transport Economist/Financial Expert (4 months).

LPG Operations Expert/Team Leader

- Team Leadership: Demonstrated experience leading consulting teams on multiple projects.

- LPG Operations: At least 15 years of experience in the development and management of LPG/petroleum facilities.

- Country/Regional Experience: Experience in transport/energy sector projects either in Pakistan or the Asia region preferred.

- Education: Advanced engineering degree is required, preferably coupled with a degree in business administration or a related field in the transport sector.

Bus/Heavy Truck Engineer

- Bus Operations: At least 15 years of experience in the engineering and management of bus operations including engine conversion to LPG.

- Education: Engineering or a related field in the engine/transport sector.

Institutional/Legal Expert

- Institutional/Regulatory Analysis At least 10 years of international experience in institutional analysis and policy formulation in public sector transport including bus operations, and experience in private sector participation in bus transport.

- Education: Advanced degree or equivalent experience in public administration/policy, business administration, or a related field.

Transport Economist/Financial Expert

- Economic/Financial Analysis: At least 10 years of experience in economic and/or financial analysis in the transport sector, preferably with experience in the development and/or management of bus operations.

- Education: Advanced degree or equivalent experience in economics and/or business administration, or a related field.

Justification

While LPG has been used successfully as a transport fuel in many countries, Pakistan has had only limited experience with LPG as a transport fuel, and this has been largely with smaller vehicles such as motorized rickshaws. Given LPG's viability compared to CNG and the rising costs of CNG as well as concerns about its availability, LPG could become a viable alternative. Utilizing buses in Pakistan's two largest cities, Karachi (population 15.5 million) and Lahore (metropolitan area population of about 10 million), would provide an opportunity to demonstrate LPG's viability as an alternative fuel. Globally, LPG is the most widely used fuel for road vehicles after gasoline and diesel. It is a far cleaner fuel and it has a higher octane rating than CNG and it is far less harmful to an engine than other fuels, including CNG. As LPG is expected to be widely available as production increases in the Middle East and Southeast Asia, Pakistan should be able to benefit from the development of an LPG industry that fuels buses and other road vehicles. As noted, however, officials are reluctant to move ahead without first confirming that sufficient LPG will be available, as well as a plan to develop associated infrastructure.

Terms of Reference

ENERCON shall be referred to hereinafter as "Grantee." To perform the Feasibility Study, Grantee shall select an independent consultant, "Contractor", in competitive bidding under USTDA guidelines.

The Terms of Reference for the Request for Proposal for the Feasibility Study can be found in Annex 5.

Estimated Budget

The total budget for the assessment of LPG as a transport fuel is $482,118, of which direct labor accounts for $358,800 and other direct costs $123,318.

Table C.2: LPG as a Transport Fuel Budget

	Task	LPG Operations Expert (TL)	Bus/Heavy Truck Engineer	Transport Economist / Financial Specialist	Institutional Expert
1	Supply and Demand Forecast	15		27	
2	Operational Requirements for Conversion	45	39	13	
3	Legal/Institutional Framework	5			35
4	Environmental Impact Assessment	13			
5	Economic/Financial Analysis	5		44	
6	Developmental Impacts	5		5	5
7	Implementation Plan	9	8	8	5
8	Final Report	7	5	7	7
	Total Labor Days	104	52	104	52
	Daily Rate	**$1,200**	**$1,200**	**$1,100**	**$1,100**
	Total Labor Cost	**$124,800**	**$62,400**	**$114,400**	**$57,200**

Other Direct Costs	Unit	Number	Unit Cost	Total
International Air	Trips	8	$2,500	$20,000
Ground Transport	Days	312	$30	$9,360
Per Diem (Lahore)	Days	312	$245	$76,440
Reproduction/Binding	Lump Sum			$2,000
Courier Services	Lump Sum			$2,000
Visas	Per Trip	4	$180	$720
Communications	Months	4	$500	$2,000
Project Office Operations	Months	4	$1,000	$4,000
Medex Insurance ($27/person 1-10 days)	10-day	31	$27	$842
DBA Insurance ($1.66 per $100 labor)	Lump Sum			$5,956
Total Other Direct Costs				**$123,318**

Total Labor Cost	**$358,800**
Total Other Direct Costs	**$123,318**
Total Project Cost	**$482,118**

SECTION B: BACKGROUND

DM Focus and Structure

The Islamic Republic of Pakistan is located at the crossroads of South Asia, the Middle East and Central Asia. It has a 1,046 km coastline along the Arabian Sea and Gulf of Oman in the south, and is bordered by Afghanistan and Iran in the west, India in the east and China in the far northeast. It also lies very close to Tajikistan, but is separated by the narrow Wakhan Corridor. The total area of Pakistan is 796,095 km2, including 770,875 km2 of land area and 25,220 km2 of sea territory.

The estimated population of Pakistan in 2008 is over 166,040,000, making it the world's sixth most-populous country. Pakistan has a multicultural and multi-ethnic society and hosts one of the largest refugee populations in the world, as well as a young population. Approximately 1.7 million Afghan refugees remain in Pakistan. The annual growth rate is 2.2%. The total number in the labor force is about 50.58 million people, with 43% of the labor force engaged in agriculture. Average life expectancy is 65 years.

Pakistan's GDP was about $168.3 billion in 2008, or roughly $1,046 per capita. GDP growth rose steadily from 2% in 2000-2001 to 9% in 2004-2005. It has since been declining reflecting the worsening security situation, the global financial crisis and internal macroeconomic imbalances. The latter includes rising fiscal deficits resulting from a narrow tax base, weak tax administration, considerable tax exemptions, subsidies for a range of items including for certain energy items such as CNG, and operating losses for a number of government-owned enterprises such as Pakistan Railways and PIA (losses for government-owned enterprises totaled about 2.1% of GDP in 2007-2008) As GDP growth slowed and fiscal inflows declined, public expenditures and investment programs continued, with the effect that general subsidies on food and fuel have been or are being withdrawn, and a more targeted direct income support for the poor has been implemented with endorsement by the IMF. Compounding and contributing to the macroeconomic imbalances, the rise in commodity prices especially for imported energy and worsening terms of trade[1] led to a dramatic decline (about 19.3%) in the Rupee:Dollar exchange rate in 2008, and a sharp rise in the inflation rate from 7.9% in 2007 to 13.4% in 2008.

Despite these structural problems, the economy has weathered the recent global financial crisis surprisingly well, with GDP growth of 2.4% for 2008 and over 6.4% for 2009, thus making it one of the fastest growing emerging markets worldwide. Moreover, continued attention is being given to supporting private sector participation and encouraging private investment including in the privatization of government-owned enterprises. Although this does not include PIA and Pakistan Railways, it does include toll roads operated by private sector companies and electricity suppliers. Clearly however, for economic growth to return to its recent higher rates, fiscal discipline and resolving the security situation are necessary prerequisites.

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[1] In November 2008, Pakistan entered an IMF Stabilization Program after its international liquidity had declined to an import cover of only several weeks.

Transportation Sector in Pakistan

Pakistan has a reasonably developed transport infrastructure with a nationwide system of roads, including national highways and motorways, which are currently under construction, civil aviation, railways and ports. It provides over 6% of employment in the country and receives 12 to 16% of the annual Federal Public Sector Development Program (PSDP). Government agencies and companies dominate key subsectors such as aviation, railways, ports and shipping, and to a lesser extent, trucking. Key components include:

- Roads (total 258,350 kilometers [kms], of which 162,675 kms are paved, and 2,207 kms are expressways).
- Railways (total route 7,791 kms, of which, 7,479 kms of 1.676 meter gauge—of which, 293 kms are electrified).
- International Ports (Karachi, Muhammad bin Qasim, Gwadar).
- Airports (total 145, paved 98 with 16 having runway at least 3,000 meters in length).

Road transport is the backbone of Pakistan's transport system. The 9,574 km long National Highway and Motorway network (3.65% of the total road network), carries 80% of Pakistan's total traffic. Over the past ten years, road traffic, both passenger and freight, has grown significantly faster than the national economy. Currently, it accounts 91% of national passenger traffic and 96% of freight.

Table B.1 shows the major role that roads play in the transport sector and the relatively diminishing role for railways. Table B.2 shows the number of vehicles on the road, with over half accounted for by motorcycles and motor scooters.

Table B.1: Passenger and Freight Traffic

Fiscal Year	Passenger Traffic (million pkm)				Freight Traffic (million tkm)			
	Road	%Change	Rail	%Change	Road	%Change	Rail	%Change
1996-97	163,751	5.9	19,114	1.1	84,345	5.6	4,607	-9.3
1997-98	173,857	6.2	18,774	-1.8	89,527	6.1	4,447	-3.5
1998-99	185,236	6.5	18,980	1.1	95,246	6.4	3,967	-10.8
1999-00	196,692	6.2	18,495	-2.6	101,261	6.3	3,753	-5.4
2000-01	208,370	5.9	19,590	5.9	107,085	5.7	4,520	20.4
2001-02	209,381	0.5	20,783	6.1	108,818	0.2	4,573	1.2
2002-03	215,872	3.1	22,306	7.3	110,172	1.2	4,830	5.4
2003-04	222,779	3.2	23,045	3.3	114,244	3.7	5,336	10.7
2004-05	232,191	4.2	24,238	5.2	116,327	1.8	5,532	3.6
2005-06	238,099	2.5	25,621	5.7	117,035	0.6	5,916	6.9
2006-07			26,446	3.2			5,453	-7.8
2007-08	--	--	24,731	-6.5	--	--	6,178	13.3
July-Mar 2008-09*			19,677	7.5	88,023		4,520	19.38

Note: *=Estimated.

Source: Ministry of Railways and Ministry of Communications.

Table B.3 shows the length and routes of main highways. Considerable resources have been allocated to the development of the highway network over the last two decades, including through funding from international financing institutions such as the World Bank and ADB. Currently there are efforts to increase private sector participation through concessioning toll roads in order to provide revenues for maintenance.

Table B.2: Motor Vehicles on the Road (000s)

Year	Mcy/ Scooter	Motor Car	Jeep	Stn. Wagon	Tractor	Buses	M.Cab Taxi	Motor Rck	D. Van	Trucks	Pickup	Ambu-lance	Tankers		Others	Total
													Oil	Water		
1991-92	971.80	429.10	31.60	43.60	275.30	45.00	33.50	42.40	61.40	75.80	30.20	1.70	4.00	0.60	49.50	2,095.50
1992-93	1,165.50	465.80	35.60	48.80	353.00	51.70	40.00	46.70	69.80	84.20	39.50	2.00	4.30	0.70	52.70	2,460.00
1993-94	1,287.30	493.70	38.00	52.70	376.60	56.40	44.50	50.50	74.00	92.00	44.10	2.30	4.70	0.70	73.60	2,690.40
1994-95	1,482.00	516.80	41.30	56.00	399.80	60.90	47.90	53.40	78.20	98.30	47.10	2.70	5.10	0.80	60.70	2,951.60
1995-96	1,481.90	538.40	43.00	59.00	424.80	64.50	51.40	58.70	81.30	104.20	50.50	3.30	5.60	0.90	63.70	3,000.20
1996-97	1,576.00	564.50	43.50	62.00	439.80	68.20	54.10	65.60	84.30	110.30	50.20	3.70	6.10	1.10	66.50	3,195.80
1997-98	1,691.40	593.00	45.50	65.00	463.60	72.50	57.30	74.60	87.60	117.10	56.10	4.30	6.80	1.30	69.70	3,405.80
1998-99	1,833.70	731.30	47.80	60.60	489.80	84.40	68.50	56.70	51.70	121.00	56.40	1.50	6.80	0.70	74.70	3,651.70
1999-00	2,010.00	815.70	16.70	73.90	528.40	92.80	69.80	59.90	55.50	127.40	61.60	1.70	7.00	0.70	78.80	3,997.20
2000-01	2,218.90	928.00	17.00	93.80	579.40	86.60	79.80	72.40	72.40	132.30	68.40	1.70	7.20	0.80	89.00	4,471.00
2001-02	2,481.10	1,040.00	18.30	122.70	630.50	96.60	96.40	80.80	116.90	145.00	78.30	4.10	7.60	0.90	71.50	5,016.80
2002-03	2,656.20	1,110.00	43.40	126.40	663.20	98.30	104.10	80.90	120.30	146.70	80.60	4.30	7.60	0.90	71.40	5,315.00
2003-04	2,882.50	1,193.10	47.80	132.40	722.70	100.40	112.60	81.00	121.30	149.20	84.40	4.40	7.60	0.90	71.30	5,711.20
2004-05	3,063.00	1,264.70	51.80	140.50	778.10	102.40	120.30	81.30	121.90	151.80	87.60	4.50	7.70	0.90	69.40	6,048.30
2005-06	3,791.00	1,999.20	65.70	140.80	822.30	103.60	122.10	77.80	143.30	151.80	93.50	4.50	7.70	0.90	60.20	7,084.50
2006-07	4,463.80	1,682.20	85.40	169.10	877.80	108.40	119.10	79.00	148.90	173.30	104.50	4.60	7.80	0.90	38.50	8,063.60
2007-08	5,037.01	1,853.46	82.87	163.22	900.52	109.10	129.80	89.34	163.50	177.80	115.30	5.20	8.80	1.00	40.80	8,878.50
Jul-Mar 2008-09 *	5,367.86	2,029.16	79.02	155.58	911.69	111.06	138.57	88.40	167.20	181.90	125.50	5.65	9.70	1.20	41.40	9,413.80

Notes: * = Estimated

Source: National Transport Research Center.

Table B.3: List of National Highways of Pakistan

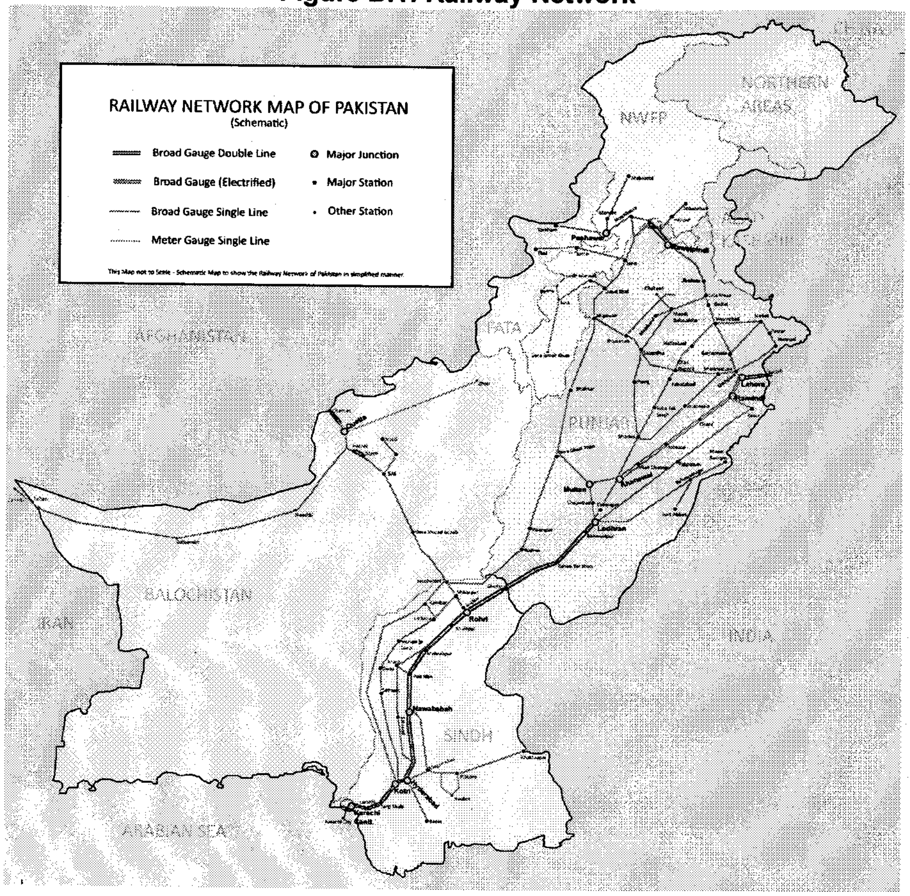
Number	Route	Total Length (km)
N-5	Karachi to Torkham via Hyderabad, Multan, Lahore, Rawalpindi and Peshawar	1,756
N-10	Karachi to Gwadar (Makran Coastal Highway) along the Arabian Sea	653
N-15	Mansehra to Chilas via Naran and Jalkhand	240
N-25	Karachi to Chaman (RCD Highway) via Bela, Khuzdar, Kalat and Quetta	813
N-35	Hasan Abdal to Khunjerab (Karakoram Highway) via Abbottabad, Thakot and Gilgit	806
N-40	Quetta to Taftan via Naukundi to Zahedan, Iran	610
N-45	Nowshera to Chitral via Dir	193
N-50	Kuchlak to Dear Ismail Khan via Zhob	332
N-55	Karachi to Peshawar (Indus Highway) via Kotri, Shikarpur, Dera Chazi Khan and Kohat	1,264
N-65	Sukkur to Saryab via Sibi	385
N-70	Qila Saifullah to Multan via Loralai and Dera Ghazi Khan	447
N-75	Islamabad to Kohala (Murree Expressway) via Satra Mile, Lower Topa and Murree	90
N-80	Tarnol to Kohat	144
N-85	Hishab to Surab via Pangjur, Nag and Basima	487
N-90	Kwaskhela to Besham via Alpuri	90
N-95	Chakdara to Kalam via Mingora, Manglour, Kwawakhela, Madyan and Bahrain	135
S-1	Gilgit to Skardu	167
S-2	Kohala to Muzaffarabad	40
S-3	Muzzaffarabad to Chakothi	55
E-3	Wazirabad to Pindi Bhattian	100
E-4	Faisalabad to Khanewai	184
E-5	Khanewal to Lodhran	100
Total Length		9,091

For railways, the operating company, Pakistan Railways, is government owned. As noted above, the railway subsector has been losing market share to roads. Several factors have caused this to occur:

- The primary focus has been on carrying passengers and fares have been subsidized, which is common practice around the world but this means that the railway is not recouping its expenditures;
- The freight business, which could earn net revenues, has suffered as rolling stock is allocated to passenger service and some rolling stock has deteriorated because of lack of funds for spares and maintenance
- Similarly, some track sections have deteriorated and only recently has the purchase of new signaling and communications systems been approved—collectively, this means that there are speed orders (restrictions) for certain track sections; and
- The railway has not been responsive to potential freight customers.

In the last several years, the World Bank and ADB have provided funds for reforming the railway. These efforts include privatizing certain repair and maintenance facilities, and the adoption of a new railway law that allows for independent operators that will pay track access charges. However, the reform efforts are still in their early stages, and how they progress will largely determine the railway's future. The simple fact is that the railway needs to increase its freight business and increase revenues to reinvest in the network.

Figure B.1: Railway Network



With respect to civil aviation, Karachi is Pakistan's main airport but significant levels of both domestic and international cargo are also handled at Islamabad and Lahore. Pakistan International Airlines (PIA) is government-owned, and is facing competition from two recently established privately-owned airlines, JetBlue and Shaheen Air. PIA, Air Emirates and Qatar Airways are important international carriers.

Table B.4 shows air traffic at the largest airports in 2007. Air cargo is reportedly under-serviced by domestic airlines, with international air cargo planes handling most of it. Interestingly, the Sialkot Chamber of Commerce initiated the program to develop an airport in that city to handle cargo. Utilizing considerable private sector resources, the airport construction began in 2001, flights began in 2005, and the airport was completed in 2007. The airport facilities are being expanded, and it is now handling about 40,000 tons of cargo per year. Passenger flights have also begun from Sialkot.

Table B.4: Major Air Traffic Flows, 2007

Airport	Aircraft Movements (number)	Passengers (International & Domestic)	Cargo Handled (million tons)	Mail Handled (million tons)
Jinnah International Airport - Karachi	52,990	6,081,448	169,124	2,953.13
Benazir Bhutto International Airport - Islamabad	48,110	3,035,966	53,950	579.67
Allama Iqbal International Airport - Lahore	39,634	3,091,590	74,664	1,683.79
Peshawar Internatinoal Airport - Peshawar	13,234	890,942	10,537	47.98
Quetta International Airport - Quetta	2,736	284,829	1,513	32.42
Multan Internationl Airport - Multan	19,379	240,573	1,273	49.52
Gwadar International Airport - Gwadar	1,507	29,379	63	1.15
Faisalabad International Airport - Faisalabad	2,832	189,339	971	30.7

Source: Pakistan Civil Aviation Authority.

Aside from the new airport being built in Islamabad to accommodate increasing traffic (Louis Berger is assisting CAA with this project), Pakistan is currently only planning moderate expansion/upgrade projects to its existing airport infrastructure. For example, Turbat Airport is planning the construction of a new airport lounge and control tower, Jinnah (Karachi) Airport is installing more e-check in and ticketing systems, and Quetta Airport is upgrading portions of its terminal. TERA does not see significant U.S. commercial opportunities for new airport development/upgrades at this time.

Port traffic in Pakistan has grown at 8 % annually in recent years. Two major ports, Port Karachi and Port Qasim, handle 95 % of all international trade. Port Gwadar, which was inaugurated in March 2007 and is being operated by Singapore Port Authority, is aiming to develop into a central energy port in the region. The Port of Pasni is located in Pasni City in Balochistan province of Pakistan. The facilities include modern fish harbor, port and a naval base for Pakistan Navy.

Tables B.5 and B.6 show cargo handled at Karachi and Port Qasim. Both operate under port authorities that set fees and handle overall administration of the ports. Port Qasim has one primary port terminal operator and Karachi has three. Both ports are expanding. Karachi Port Trust is planning for a new Karachi port that will require over $ 2 billion in investment.

Table B.5: Cargo Handled at Karachi Port (000 tons)

Year	Imports	%Change	Exports	%Change	Total	%Change
1996-97	18,362	-1.9	5,113	5.2	23,478	-0.4
1997-98	17,114	-6.8	5,570	8.9	22,686	-3.4
1998-99	18,318	7	5,735	3	24,063	6
1999-00	17,149	-0.9	5,613	-2.1	22,759	-1.2
2000-01	20,064	10.5	5,918	5.4	25,998	9.3
2001-02	20,330	1.3	6,362	7.5	26,701	2.7
2002-03	19,609	-3.5	6,273	-1.4	25,877	-3.1
2003-04	21,732	10.8	6,081	-3.1	27,821	7.6
2004-05	22,100	1.7	6,515	7.1	28,624	2.9
2005-06	25,573	15.7	6,697	2.8	32,289	12.8
2006-07	23,329	-8.77	7,517	12.24	30,849	-4.41
2007-08	25,517	9.38	11,675	55.31	37,257	20.57
2008-09 (Jul-Jan)	13,512	-10.46	7,874	44.34	21,420	4.09

Source: Karachi Port Trust.

Table B.6: Cargo Handled at Port Qasim (000 tons)

Period	Imports	%Change	Exports	%Change	Total	%Change
1997-98	13,823	39	1,144	65	15,071	41
1998-99	12,191	-12	1,742	52	13,973	-7
1999-00	13,238	9	1,703	-2	14,948	7
2000-01	11,841	-11	1,747	3	13,580	-11
2001-02	10,932	-8	2,385	36	13,345	-2
2002-03	11,980	10	3,129	31	15,150	13
2003-04	11,264	-6	2,859	-9	14,108	-7
2004-05	16,006	42	3,431	20	19,499	37
2005-06	17,588	10	3,985	16	21,599	11
2006-07	19,511	11	4,839	21	24,382	13
2007-08	21,502	10	4,922	2	26,436	9
July-Mar						
2007-08	16,146		3,654		19,800	
2008-09	14,243	-12	3,773	3	18,007	-9

Source: Port Qasim Authority.

While there are positives regarding the transportation sector, Pakistan nevertheless faces a number of issues with respect to its transportation sector, mainly due to consistent under-funding with respect to construction, rehabilitation, and maintenance of infrastructure. This has resulted in high transportation costs, and thus hampers its competitiveness with respect to international trade. Only 56% of the national highway network is in good condition, and provincial and local roads are in a similar state. Truck overloading is widespread and a frequent cause of accidents. Railways accounted for over 70% of freight traffic in the 1950s, but the network and rolling stock have been allowed to deteriorate to the point that the network now carries less than 5%. Shipping is also problematic with long delays in moving cargo reported in the port of Karachi. The Civil Aviation Authority is both a regulatory and an operating agency (for PIA). A draft national transport policy has been presented at the urging of international financial institutions, which has meant that coordination and cooperation for intermodal and logistics development has been lacking. Thus, while the status of the transportation sector is less than ideal, there appear to be some optimistic signs emerging.

In 2005, the government launched a north-south National Trade Corridor Improvement Program with the private sector, which assisted in the development of intermodal and logistics services and enabled a focusing of investments on main corridor routes. It is estimated that the National Highway Authority's plan to upgrade the network including the trade corridors will cost about $8 billion by 2015; however, the government hopes that the private sector will contribute about 7% of the capital for the upgrade (an important point because it indicates that the private sector is finally being tapped to participate in operations and maintenance). Also important regarding this initiative is that it specifically targets improving regional connectivity, especially with Afghanistan, as evidenced by the inclusion of the proposed upgrade of the road between Peshawar and Torkham/Landi Kotal. Currently, there is very limited but increasing traffic between Central Asia and Pakistan, although Karachi is the closest port for these countries, which reflects the problems in Karachi port mentioned above as well as the fact that priority had not been given to establishing transit links. In addition to the road infrastructure, there is an increasing emphasis being given to improving logistics and transit processing times. The aim of the program is to reduce by half the transit time between Peshawar and Karachi, which is currently 72 hours for the 1,700 kms trip (about 24 km/hour) to 36 hours (48 km/hour).

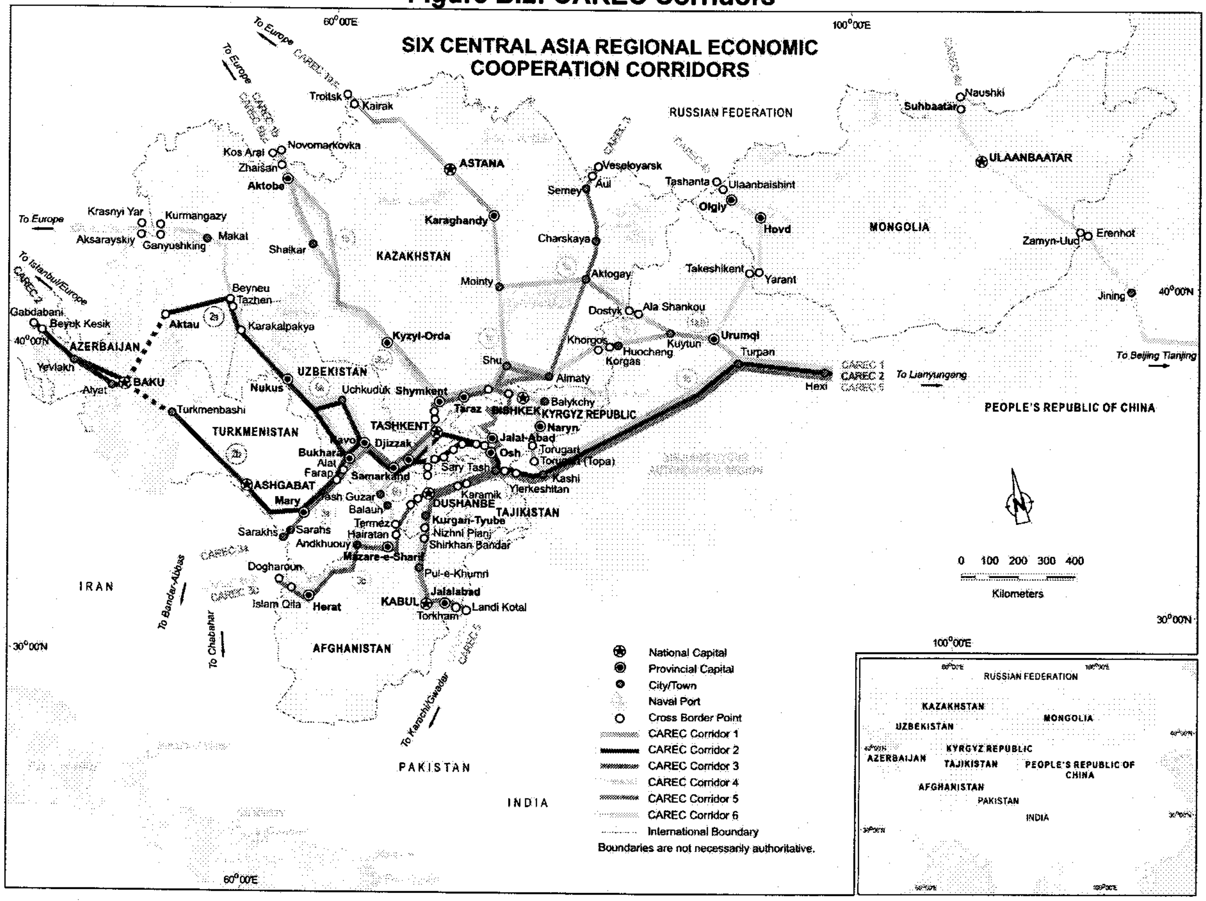
Pakistan's "corridor development" programs complement neighboring Afghanistan, which is a member of ADB's Central Asia Economic Cooperation group, or "CAREC." While current instability may constrain trade in the near term, it is increasing and holds considerable promise as an economic growth engine in the region, and the Central Asian countries hope to be able to utilize Pakistan as an important outlet to the sea as well as a trading partner in the future. ADB's CAREC corridors are shown in Figure B.2 below and indicate the prominence of both countries.

For railways, there has been recognition that efficiencies of operations must be drastically improved. Set for implementation in 2009 under an ADB loan is a technical assistance project to assist the government in implementing a strategy to revitalize Pakistan Railways (PR). The strategy will involve the corporatization of elements of PR, including introducing professional management and private investment, with the goal of (i) converting manufacturing units (MUs) into Public Limited companies, (ii) facilitating the fulfillment of the government objective to offload the railway budget from non-core activities, (iii) facilitating the capability of MUs to have autonomous entities to seek business from private enterprises, (iv) preparing a strategy for the MUs to convert these private enterprises into viable commercial companies, and (v) preparing corporate plans and feasibility studies for their future operations and implementation strategy. The MUs to be looked at under this Project include: the carriage factory in Islamabad; the locomotive factory in Risalpur; and concrete sleeper factories in Sukkur, Khanewal, Kotri, and Kohat.

Also included under this loan package is a technical assistance project to assist the Ministry of Railways (MOR) to formulate policy for the rail sector to enable public-private partnerships in the sector. The focus of the project will be on freight and passenger trains and railway infrastructure, which will include railway real estate, joint ventures, dry ports and other allied activities. With an aim to promote economic growth and reduce poverty, this project will help to design appropriate mechanisms that will allow the development of the railway system to accelerate through increased private sector financing in Pakistan.

Collectively, these initiatives clearly demonstrate a commitment to changing the operating culture of the railways and developing a more modern system of management and operations. Whether the railways are able to regain modal share from the road subsector remains to be seen. However, these initiatives have to be recognized as significant progress given the past performance of the rail subsector. Moreover, the reforms that are also occurring in the road subsector as well as the new focus on logistics and border crossings indicate that the transport sector may be provided an opportunity to begin to evolve and incorporate market demand for services, and thereby increase the efficiencies of operations.

Figure B.2: CAREC Corridors



U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) <u>Rule</u>

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the National Energy Conservation Centre ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US$482,118 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Liquefied Petroleum Gas Transport Fuel Conversion project ("Project") in Pakistan ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov)*. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the Study. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the Study. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the Study. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the Study by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is December 15, 2011 is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the Study, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the Study and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the Managing Director. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Faridullah Khan
Managing Director

National Energy Conservation Centre (ENERCON)
ENERCON Building G-5/2
Islamabad, Pakistan
Phone: 92-51-920-6001
Fax: 92-51-920-2657
Email: mdenercon@gmail.com

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 119/101001
Activity No.: 2010-31068A
Reservation No.: 2010310088
Grant No.: GH2010310027

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this Study, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the National Energy Conservation Centre each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America	**For National Energy Conservation Centre**
By: Stephen C. Engelken	By:
Date: 15 September 2010	Date: 15/09/2010
Witnessed:	Witnessed:
By:	By: 15/09/2010

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

This Study shall provide the information, data and analysis necessary for the Host Country to consider adopting Liquefied Petroleum Gas (LPG) as a fuel source for land transportation operations (the "Project"). The Study will assess land transportation operations along the transportation corridor, connecting cities and intra-cities. The Study shall provide LPG supply and demand forecast and assessments, including supply from the Persian Gulf (excluding Iran) among other sources. The Study shall also provide the technical/operational specifications required to adopt LPG as a transportation fuel, noting any infrastructure requirements, as well as the economic, financial and legal considerations required for Project implementation.

Task 1: Supply, Demand and Future Projections Assessment

The Contractor shall analyze the LPG market worldwide.[1] The Contractor shall research and report on current LPG supply and demand, as well as projections of supply, demand and pricing over the next twenty years, at a minimum.

1.1 The Contractor shall research and detail historic LPG production, consumption and exports on a per-country basis, for countries in the Middle East and South Asia Regions, for the past five years, at a minimum. The Contractor shall conduct research and detail historic price levels of LPG providing forecasting for the Host Country and other regions of the world over the past ten years.

1.2 The Contractor shall identify the consumers and importers of LPG and identify trends (e.g., which countries have exhibited significant increases and/or decreases in consumption and/or international trade). The Contractor shall identify all sources of LPG for the Host Country based on current market conditions. The demand forecast shall include LPG for use as a transport fuel as well as for non-transport uses.

1.3 The Contractor shall develop price forecasts for LPG, as well as liquid natural gas (LNG) and compressed natural gas (CNG), covering the period 2011 to 2030.

1.4 The Contractor shall estimate the growth of bus operations in the Host Country for the period 2011 to 2030.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 1.

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[1] The Contractor shall exclude Iran from all analyses and assessments of LPG markets and all other requirements under the Terms of Reference. USTDA funds provided under the Grant Agreement shall not be used to pay for any expenses related to Iran arising out of work performed under the Terms of Reference.

Task 2: Assess Operational Requirements

The Contractor shall assess the operational requirements to convert Karachi, Hyderabad, Multan, Lahore, Faisalabad, Peshawer and Islamabad / Pindi bus fleets to LPG.

The Contractor shall provide a comparative analysis demonstrating the viability of LPG as an alternative fuel to CNG and diesel and assess the operational requirements needed to adopt LPG fueled bus operations in the above cities, as well as the inter- cities corridors connecting these cities. This assessment shall include the following subtasks:

2.1 The Contractor shall collect statistics including, but not limited to, the total number of buses running, distribution of fuel usage, and estimated number of passengers. The Contractor shall also collect statistics for bus operations among these cities including but not limited to, scheduling, number of stops, customer base, and expected expansion plans.

2.2 The Contractor shall examine the current infrastructure required and currently being used to provide, deliver, and distribute transportation fuel (gasoline, diesel, and CNG refueling stations). The Contractor shall identify how LPG fuel could be provided and recommend what would be necessary to modify existing infrastructure to accommodate LPG distribution.

2.3 The Contractor shall recommend a system solution for LPG vehicle maintenance, either within the current vehicle maintenance network or as a separate system.

2.4 The Contractor shall assess and identify the costs and inputs, including training, necessary to establish LPG as a transport fuel. The Contractor shall consider and recommend all necessary safety provisions for LPG adoption.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 2.

Task 3: Economic Analysis

3.1 The Contractor shall conduct a comprehensive economic analysis of the Project. The Contractor shall estimate costs for all equipment, labor, infrastructure, and regulatory reforms needed to implement the Project.

3.2 The Contractor shall estimate the economic internal rate of return (EIRR) on the basis of non-incremental and incremental economic benefits and economic costs (including economic capital, operation, and maintenance costs) in constant economic prices, for the Project.

3.3 The Contractor shall develop a best estimate of potential procurement of U.S. goods and services for Project implementation. This estimate shall include a breakdown by category and dollar value of goods and services likely to be imported for the Project and an illustrative list of potential U.S. suppliers for those goods and services listed as likely U.S. exports, including a list of U.S. suppliers and manufacturers of LPG transport conversion kits.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 3.

Task 4: Financial Analysis

The Contractor shall conduct Tasks 4.1-4.4 analysis for a single bus fleet only, as identified by the Grantee. The Contractor shall extrapolate these findings in order to complete Task 4.5 for purposes of implementing the Project throughout the Host Country.

4.1 The Contractor shall assess and prepare financial projections to implement the Project, over 20 years of operation including balance sheet, income statement, and cash flow statement in nominal terms. Assumptions made in the financial statements shall be explained in detail. Financial projections shall take into consideration the likely effects of inflation and the potential for exchange rate fluctuations[2].

4.2 The Contractor shall conduct a financial evaluation for the Project implemented over the conversion and operation period by calculating the Financial Internal Rate of Return (FIRR) and compare it with weighted average cost of capital (WACC). The FIRR and WACC shall be computed on an after tax basis in real terms using constant 2010 prices. The cost estimates and financial projections in nominal terms shall be converted to real terms by removing the projected effects of foreign and domestic inflation and currency fluctuations. Incremental costs and benefits should be derived from evaluating the financial position under a with-Project and without-Project (diesel-powered) scenario.

4.3 The Contractor shall compare the life-cycle costs for the Project versus the current CNG- and diesel-powered fleet operations.

4.4 The Contractor shall undertake a sensitivity analysis by varying charges, costs, implementation delay, traffic volume, and combinations of these factors. The Contractor shall identify risk factors, test the sensitivity of the bus fleet to them, and propose mitigating measures. Switching values for these factors, excluding implementation delay, shall also be calculated based on a minimum FIRR of 12 percent and a minimum EIRR of 14 percent. The Contractor shall review the sensitivity of the financial viability of the bus fleet to future exchange rate movements.

[2] An assumption of purchasing power parity should be made with respect to exchange rate variations using the following formula; Exchange rate year n = exchange rate year n-1 *[(1+domestic inflation)/(1+international inflation)]

4.5 The Contractor shall identify likely sources of financing for the Project for the Host Country. The Contractor shall recommend a role for private capital and investment. The Contractor shall determine whether the use of private capital should be used to supply a bus fleet with LPG equipment on a commercial versus financial lease basis. The Contractor shall also discuss options with representatives of the World Bank, Asian Development Bank and at least one other international financial institutions that has made significant investments in the Host Country.

Deliverable

The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 4.

Task 5: Assess Legal and Institutional Framework

5.1 The Contractor shall recommend necessary legal and institutional framework changes to implement the Project. The Contractor shall identify barriers to operations and recommend remedies including regulatory requirements to minimize risk for potential investors.

Deliverable

The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 5.

Task 6: Initial Environmental Impact Assessment

6.1 The Contractor shall conduct a preliminary review of the Project's anticipated impact on the environment, with reference to all pertinent national, provincial and/or local requirements. This review shall identify potential negative and positive impacts, discuss the extent to which they can be mitigated, and develop plans for an environmental impact assessment as may be required under Host Country law and regulations, if and when the Project moves forward to the implementation stage. The Contractor shall analyze requirements of international financial institutions such as the World Bank or Asian Development Bank. This task shall also include identifying the steps, if any, that the Grantee will need to undertake subsequent to the Study's completion and prior to Project implementation.

Deliverable

The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 6.

Task 7: Implementation Plan

71. The Contractor shall develop an implementation plan clearly outlining the required next steps necessary to implement the Project in active collaboration with the local transport authorities. This plan shall include detailed steps in the areas of financing, infrastructure modifications and construction, regulatory reform, and equipment procurement. The Contractor shall develop a draft schedule in which milestones are identified. The Contractor shall present a draft implementation plan to the Grantee for review and comment, and incorporate any feedback into the final version.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 7.

Task 8: Assess Development Impacts of Project

81. The Contractor shall analyze developmental impacts related to Project implementation. The Contractor shall focus on key factors such as infrastructure, human capacity building, technology transfer/productivity improvement, and market-oriented reform, which are intended to provide the Project's decision-makers and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to Study recommendations. While specific focus shall be paid to the immediate impact of the Project, analysis shall also include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The Contractor shall:

Infrastructure: identify and list improvements at the Project site and surrounding area.

Technology Transfer and Productivity Improvement: list advanced technologies, and improvement of processes that stimulate greater economic productivity, as a result of the Project.

Human Capacity Building: estimate the number of new job opportunities, and sustained employment which may result from Project implementation.

Market-Oriented Reforms: examine the Project's potential for changes regulation and legislation both on a federal and provincial level.

Other/Spin-off Effects: examine any other developmental benefits derived from the Project.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 8.

Task 9: Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and National Energy Conservation Centre ("Client"), dated __________ ("Grant Agreement"). The Client has selected ______________ ("Contractor") to perform the feasibility study ("Study") for the Liquefied Petroleum Gas Transport Fuel Conversion project ("Project") in Paksitan ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Study. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of

USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

> "The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is December 15, 2011 is the date by which the parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:
Appropriation No.: 119/101001
Activity No.: 2010-31068A
Reservation No.: 2010310088
Grant No.: GH2010310027

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

TERMS OF REFERENCE

Annex I

Terms of Reference

This Study shall provide the information, data and analysis necessary for the Host Country to consider adopting Liquefied Petroleum Gas (LPG) as a fuel source for land transportation operations (the "Project"). The Study will assess land transportation operations along the transportation corridor, connecting cities and intra-cities. The Study shall provide LPG supply and demand forecast and assessments, including supply from the Persian Gulf (excluding Iran) among other sources. The Study shall also provide the technical/operational specifications required to adopt LPG as a transportation fuel, noting any infrastructure requirements, as well as the economic, financial and legal considerations required for Project implementation.

Task 1: Supply, Demand and Future Projections Assessment

The Contractor shall analyze the LPG market worldwide.[1] The Contractor shall research and report on current LPG supply and demand, as well as projections of supply, demand and pricing over the next twenty years, at a minimum.

1.1 The Contractor shall research and detail historic LPG production, consumption and exports on a per-country basis, for countries in the Middle East and South Asia Regions, for the past five years, at a minimum. The Contractor shall conduct research and detail historic price levels of LPG providing forecasting for the Host Country and other regions of the world over the past ten years.

1.2 The Contractor shall identify the consumers and importers of LPG and identify trends (e.g., which countries have exhibited significant increases and/or decreases in consumption and/or international trade). The Contractor shall identify all sources of LPG for the Host Country based on current market conditions. The demand forecast shall include LPG for use as a transport fuel as well as for non-transport uses.

1.3 The Contractor shall develop price forecasts for LPG, as well as liquid natural gas (LNG) and compressed natural gas (CNG), covering the period 2011 to 2030.

1.4 The Contractor shall estimate the growth of bus operations in the Host Country for the period 2011 to 2030.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 1.

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[1] The Contractor shall exclude Iran from all analyses and assessments of LPG markets and all other requirements under the Terms of Reference. USTDA funds provided under the Grant Agreement shall not be used to pay for any expenses related to Iran arising out of work performed under the Terms of Reference.

Task 2: Assess Operational Requirements

The Contractor shall assess the operational requirements to convert Karachi, Hyderabad, Multan, Lahore, Faisalabad, Peshawer and Islamabad / Pindi bus fleets to LPG.

The Contractor shall provide a comparative analysis demonstrating the viability of LPG as an alternative fuel to CNG and diesel and assess the operational requirements needed to adopt LPG fueled bus operations in the above cities, as well as the inter- cities corridors connecting these cities. This assessment shall include the following subtasks:

2.1 The Contractor shall collect statistics including, but not limited to, the total number of buses running, distribution of fuel usage, and estimated number of passengers. The Contractor shall also collect statistics for bus operations among these cities including but not limited to, scheduling, number of stops, customer base, and expected expansion plans.

2.2 The Contractor shall examine the current infrastructure required and currently being used to provide, deliver, and distribute transportation fuel (gasoline, diesel, and CNG refueling stations). The Contractor shall identify how LPG fuel could be provided and recommend what would be necessary to modify existing infrastructure to accommodate LPG distribution.

2.3 The Contractor shall recommend a system solution for LPG vehicle maintenance, either within the current vehicle maintenance network or as a separate system.

2.4 The Contractor shall assess and identify the costs and inputs, including training, necessary to establish LPG as a transport fuel. The Contractor shall consider and recommend all necessary safety provisions for LPG adoption.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 2.

Task 3: Economic Analysis

3.1 The Contractor shall conduct a comprehensive economic analysis of the Project. The Contractor shall estimate costs for all equipment, labor, infrastructure, and regulatory reforms needed to implement the Project.

3.2 The Contractor shall estimate the economic internal rate of return (EIRR) on the basis of non-incremental and incremental economic benefits and economic costs (including economic capital, operation, and maintenance costs) in constant economic prices, for the Project.

3.3 The Contractor shall develop a best estimate of potential procurement of U.S. goods and services for Project implementation. This estimate shall include a breakdown by category and dollar value of goods and services likely to be imported for the Project and an illustrative list of potential U.S. suppliers for those goods and services listed as likely U.S. exports, including a list of U.S. suppliers and manufacturers of LPG transport conversion kits.

Deliverable

The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 3.

Task 4: Financial Analysis

The Contractor shall conduct Tasks 4.1-4.4 analysis for a single bus fleet only, as identified by the Grantee. The Contractor shall extrapolate these findings in order to complete Task 4.5 for purposes of implementing the Project throughout the Host Country.

4.1 The Contractor shall assess and prepare financial projections to implement the Project, over 20 years of operation including balance sheet, income statement, and cash flow statement in nominal terms. Assumptions made in the financial statements shall be explained in detail. Financial projections shall take into consideration the likely effects of inflation and the potential for exchange rate fluctuations[2].

4.2 The Contractor shall conduct a financial evaluation for the Project implemented over the conversion and operation period by calculating the Financial Internal Rate of Return (FIRR) and compare it with weighted average cost of capital (WACC). The FIRR and WACC shall be computed on an after tax basis in real terms using constant 2010 prices. The cost estimates and financial projections in nominal terms shall be converted to real terms by removing the projected effects of foreign and domestic inflation and currency fluctuations. Incremental costs and benefits should be derived from evaluating the financial position under a with-Project and without-Project (diesel-powered) scenario.

4.3 The Contractor shall compare the life-cycle costs for the Project versus the current CNG- and diesel-powered fleet operations.

4.4 The Contractor shall undertake a sensitivity analysis by varying charges, costs, implementation delay, traffic volume, and combinations of these factors. The Contractor shall identify risk factors, test the sensitivity of the bus fleet to them, and propose mitigating measures. Switching values for these factors, excluding implementation delay, shall also be calculated based on a minimum FIRR of 12 percent and a minimum EIRR of 14 percent. The Contractor shall review the sensitivity of the financial viability of the bus fleet to future exchange rate movements.

[2] An assumption of purchasing power parity should be made with respect to exchange rate variations using the following formula; Exchange rate year n = exchange rate year n-1 *[(1+domestic inflation)/(1+international inflation)]

4.5 The Contractor shall identify likely sources of financing for the Project for the Host Country. The Contractor shall recommend a role for private capital and investment. The Contractor shall determine whether the use of private capital should be used to supply a bus fleet with LPG equipment on a commercial versus financial lease basis. The Contractor shall also discuss options with representatives of the World Bank, Asian Development Bank and at least one other international financial institutions that has made significant investments in the Host Country.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 4.

Task 5: Assess Legal and Institutional Framework

5.1 The Contractor shall recommend necessary legal and institutional framework changes to implement the Project. The Contractor shall identify barriers to operations and recommend remedies including regulatory requirements to minimize risk for potential investors.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 5.

Task 6: Initial Environmental Impact Assessment

6.1 The Contractor shall conduct a preliminary review of the Project's anticipated impact on the environment, with reference to all pertinent national, provincial and/or local requirements. This review shall identify potential negative and positive impacts, discuss the extent to which they can be mitigated, and develop plans for an environmental impact assessment as may be required under Host Country law and regulations, if and when the Project moves forward to the implementation stage. The Contractor shall analyze requirements of international financial institutions such as the World Bank or Asian Development Bank. This task shall also include identifying the steps, if any, that the Grantee will need to undertake subsequent to the Study's completion and prior to Project implementation.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 6.

Task 7: Implementation Plan

71. The Contractor shall develop an implementation plan clearly outlining the required next steps necessary to implement the Project in active collaboration with the local transport authorities. This plan shall include detailed steps in the areas of financing, infrastructure modifications and construction, regulatory reform, and equipment procurement. The Contractor shall develop a draft schedule in which milestones are identified. The Contractor shall present a draft implementation plan to the Grantee for review and comment, and incorporate any feedback into the final version.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 7.

Task 8: Assess Development Impacts of Project

81. The Contractor shall analyze developmental impacts related to Project implementation. The Contractor shall focus on key factors such as infrastructure, human capacity building, technology transfer/productivity improvement, and market-oriented reform, which are intended to provide the Project's decision-makers and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to Study recommendations. While specific focus shall be paid to the immediate impact of the Project, analysis shall also include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The Contractor shall:

Infrastructure: identify and list improvements at the Project site and surrounding area.

Technology Transfer and Productivity Improvement: list advanced technologies, and improvement of processes that stimulate greater economic productivity, as a result of the Project.

Human Capacity Building: estimate the number of new job opportunities, and sustained employment which may result from Project implementation.

Market-Oriented Reforms: examine the Project's potential for changes regulation and legislation both on a federal and provincial level.

Other/Spin-off Effects: examine any other developmental benefits derived from the Project.

Deliverable
The Contractor shall prepare and deliver to the Grantee a report that contains all information collected, work performed, and analysis provided under Task 8.

Task 9: Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

ANNEX 6

COMPANY INFORMATION

A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of ______________. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of ___________. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.

3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or

destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.

5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: ______________________
(Authorized Representative)

Print Name: ______________________

Title: ______________________

Date: ______________________

E. Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

F. Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the subcontractor must provide an explanation.

1. Subcontractor is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of ______________. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: ______________________________
(Authorized Representative)

Print Name: __________________________

Title: ______________________________

Date: ______________________________